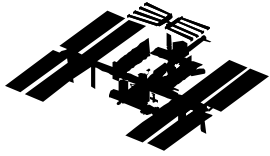


8A

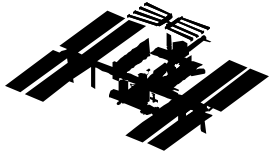
Utilization Status



8A Month-In-Review

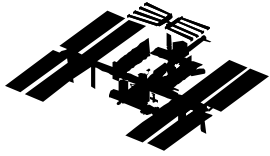
EXPRESS Rack 6 As EXPRESS Rack 4:

- All PTCS testing is complete
 - ARCTIC
 - BPS
 - CGBA
 - CPCG-H
- Includes Joint Operations test in support of EXPRESS Rack 6, currently manifested on ULF-1
 - Will most likely be demanifested from ULF-1
- Paper closure is still ongoing (hint, hint)

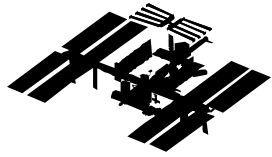


8A Looking Forward

- Main issues remaining are the 2 crew squawks
 - BPS handles
 - ARCTIC fluid lines
- Remaining activities at KSC
 - BPS fitcheck scheduled for 3/8
 - ARCTIC ITCS servicing
 - Middeck installations and IVTs



Insert Middeck Summary Chart



ISS Middeck Payload Research Objectives

- **Biomass Production System (BPS)**
 - Measure the effects of microgravity on photosynthesis and transpiration of wheat seedlings
- **Biotechnology Refrigerator (BTR)**
 - Provide a controlled environment for the transportation of conditioned samples from orbit
- **Commercial Generic Bioprocessing Apparatus (CGBA)**
 - Characterize the effects of long-term exposure to weightlessness on the process of fermentation, used in the production of antibiotics
 - May lead to development of methods for improving production efficiency in terrestrial pharmaceutical processing facilities
- **Commercial Protein Crystal Growth - High Density (CPCG-H)**
 - Grow high-quality crystals of selected proteins so that their molecular structures can be studied
 - May provide information that can be used in the development of new drugs
- **Protein Crystal Growth - Enhanced Gaseous Nitrogen (PCG-EGN) Dewar**
 - Demonstrate a low-cost platform for conducting a large number of crystallization screening experiments to explore optimum growth conditions for a broad range of macromolecules in microgravity
 - Postflight analysis can lead to new drug development, shorten drug development, and ultimately provide improvements in the understanding of various disease states
- **Advanced Astroculture (ADVASC)**
 - Explore the benefits of using microgravity to create tailor-made crops that withstand inhospitable climates, resist pestilence, and need less space to grow
- **Protein Crystal Growth - Single Locker Thermal Enclosure System (PCG-STES)**
 - Grow biological macromolecular crystals to determine their structure and the biological processes in which they are involved
 - Understanding these structures may impact the studies of medicine, agriculture, the environment, and other biosciences